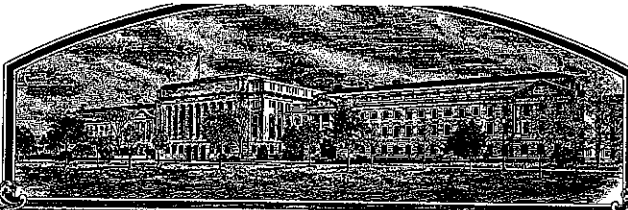


No.

200100122



# THE UNITED STATES OF AMERICA

**TO ALL TO WHOM THESE PRESENTS SHALL COME:**

**Sakata Seed Corporation**

*Whereas*, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR OTHER VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (34 U.S.C. 4321 ET SEQ.)

VINCA

'Victory Red'

*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirteenth day of September, in the year two thousand and four.*

*Attest:*



*[Signature]*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

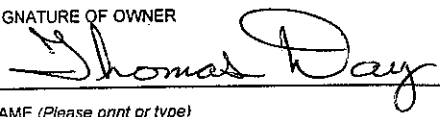
*[Signature]*  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>Sakata Seed Corporation</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>Kakegawa EP2</b>		3. VARIETY NAME <b>Victory Red Kakegawa EP2</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) <b>2-7-1 Nakamachidai Tsuzuki-Ku, Yokohama Japan 24</b>		5. TELEPHONE (include area code) <b>(408) 778-7758</b>		FOR OFFICIAL USE ONLY PVPO NUMBER <b>200100122</b>	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>corporation</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>Yokohama, Japan</b>		9. DATE OF INCORPORATION <b>Dec. 11, 1942</b>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>Thomas Day or Gary Whiteaker Sakata Seed America, Inc. 18095 Serene Drive Morgan Hill, California 95037 USA</b>				FILING AND EXAMINATION FEES: \$ <b>2705.00</b> DATE <b>12/26/00</b> CERTIFICATION FEE: \$ <b>432.00</b> DATE <b>6/25/04</b>	
11. TELEPHONE (include area code) <b>(408) 778-7758</b>		12. FAX (include area code) <b>(408) 779-1978</b>		13. E-MAIL <b>tday@sakata.com</b>	
14. CROP KIND (Common Name) <b>vinca or Madagascar perwinkle</b>		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			
21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE NUMBER 1, 2, 3, etc. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42. and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER 		SIGNATURE OF OWNER			
NAME (Please print or type) <b>Thomas Day</b>		NAME (Please print or type)			
CAPACITY OR TITLE <b>QC and IPR Manager</b>		DATE <b>12/21/00</b>		CAPACITY OR TITLE	
				DATE	

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

200100122

# ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
21. See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Japan Feb. 1999

Europe May 2000

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

Japan

January 27, 2000

Appl. # 12310

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete.

Sakata Seed America  
Vinca 'Victory Red'  
PVP Application Number: 200100122

Exhibit A, Breeding History  
Revised: August 8, 2002 (THD)

In 1994 the initial cross was made between two Vinca breeding lines. Line 6-1A-2C-1 possessed two negative traits, small flowers and limp petals, however, it also possessed good branching and round, overlapping petals. Line 4985 possessed larger flowers, however, it also possessed a tall habit with little branching. Both lines were selections of off-type plants from the variety 'Little Linda' that were self-pollinated until true breeding. In 1994 F<sub>1</sub> and F<sub>2</sub> seed were produced and selections were made from the F<sub>2</sub> generation for short plants with branching habit and large-petaled flowers. The selection 2-45B possessed an apricot petal color, round petals, large flowers and a compact habit with good branching.

In 1995 2-45B was crossed to the variety 'Pacifica Red'. F<sub>1</sub> and F<sub>2</sub> generation seed from this cross were produced in 1995. In 1996 the F<sub>2</sub> selection 4-28 was made and self-pollinated seed was made. 4-28 possessed a deep rose (reddish pink) flower petal color. Self-pollination and single plant selection for compact habit and branching, large-petaled, sturdy flowers and attractive petal color continued until 1998 when an F<sub>6</sub> generation plant, 4-28C-2D-4, was selected as 'Kakegawa EP2'.

'Kakegawa EP2' was reproduced and grown out to evaluate uniformity again at the F<sub>7</sub> generation. 'Victory Red' was uniform and stable for two seed generations. There are no variant or off-type plants inherent in the variety.

Submitted: April 19, 2004

Vinca 'Victory Red'

Sakata Seed Corporation

JMS 4/22/04  
'Victory Red' is most similar to the variety 'Pacifica Red'. The two varieties can be distinguished by the bright yellow coloration of the inner surface of the 'Victory Red' corolla ring. (RHS 2B) 'Pacifica Red' does not have this color change; it remains red purple (RHS 58B), like the petals.



Figure 1: Close-up photo of 'Victory Red' flower showing yellow color of inner surface of flower ring.

United States Department of Agriculture, Agricultural Marketing Service  
Science and Technology Division, Plant Variety Protection Office  
National Agricultural Library Building, Room 500  
Beltsville MD 20705

OBJECTIVE DESCRIPTION OF VARIETY  
VINCA (*Catharanthus* spp.)

Name of Applicant(s) Sakata Seed Corporation	Temporary Designation Kakegawa EP2	Variety Name <del>Kakegawa</del> <u>Victory Red EP2</u>
Address (Street & No., or R.F.D. No., City, State, Zip Code and Country) 2-7-1 Nakamachidai Tsuzuki-Ku, Yokohama Japan 224		FOR OFFICIAL USE ONLY PVPO Number 200100122

Place the appropriate number that describes the varietal characters typical of this variety in the spaces below. Right justify whole numbers by adding leading zeros if necessary. The variety that you choose for comparison should be the most similar one in terms of background and maturity. The comparison variety used should be grown in field trials with the application variety for 2-3 location/years (environments) in the region and season of best adaptability. At least one year of trials should be conducted within the United States of America. In general, measurements of quantitative traits should be taken on 15-25 randomly selected plants or plant parts to obtain averages and statistics that describe a typical field of the variety. Designate test location(s): Salinas, California

1. OVERALL PLANT HABIT (at flowering stage):

Data Collection Site Salinas, California

- 1 Species: 1=roseus 2=Other \_\_\_\_\_  
2 Ploidy: 1=Haploid 2=Diploid 3=Triploid 4=Tetraploid  
1 Life Cycle: 1=Annual 2=Biennial 3=Perennial  
1 Growth Habit: 1=Determinate 2=Semi-determinate 3=Indeterminate  
1 Growth Form: 1=Upright 2=Semi-prostrate 3=Prostrate  
2 Flowering: 1=Very Early 2=Early 3=Mid Season 4=Late 5=Continuous  
77 Days from Planting to First Flowering  
150 Length of Flowering Season in Days  
12.5 cm Plant Height at Maturity  
16.0 cm Plant Width at Maturity  
2 Plant Height Class: 1=Extra Dwarf 2=Dwarf 3=Semi-dwarf 4=Tall  
1 Plant Width Class: 1=Compact 2=Semi-compact 3=Spreading/Lax

Comparison Variety Name 'Pacifica Red'

- 1 Species  
2 Ploidy  
1 Life Cycle  
1 Growth Habit  
1 Growth Form  
2 Flowering season  
77 Days to First Flowering  
150 Days - Flowering Season Length  
13.0 cm Plant Height  
16.0 cm Plant Width  
2 Plant Height Class  
1 Plant Width Class

2. STEM:

- 1 Profile: 1=Straight 2=Zig-Zag  
1 Branching Pattern: 1=Single Stem 2=Few Branches 3=Many Branches  
12.5 cm Stem Length from base of stem to terminal flower  
0 Number of Internodes below First Branch  
10 Number of First Order Branches (from main stem)  
2 Stem Anthocyanin: 1=Absent 2=Along Veins only 3=Solid Coloration

- 1 Profile  
1 Branching Pattern  
13.0 cm Stem Length (total)  
0 Number of Internodes below First Branch  
10 No. of First Order Branches (from main stem)  
2 Stem Anthocyanin

Application Variety Data

Comparison Variety Data

JMS 8/12/02

200100122

Victory Red

Application Variety Data 'Hakegawa EP2'

Page 2

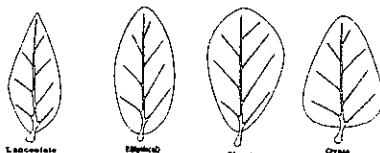
Comparison Variety Data 'Pacifica Red'

## 3. FOLIAGE:

- ☒ Leaf Type: 1=Simple 2=Compound  
☒ Leaf Margin: 1=Entire 2=Serrate 3=Other \_\_\_\_\_  
☒ Leaf Odor: 1=None 2=Mild 3=Strong  
☒ Petiole Anthocyanin: 1=Absent 2=Mild 3=Strong  
☒ Leaf Shape: 1=Lanceolate 2=Elliptic 3=Obovate 4=Ovate

29.0 mm Leaf Width

85.0 mm Leaf Length



## LEAF DORSAL SIDE:

- ☒ Leaf Color: 1=Light Green 2=Medium Green 3=Dark Green  
 4=Other (describe) \_\_\_\_\_

Color Chart Name RHS Color Chart Reading 137B

- ☒ Pubescence: 1=Absent 2=Light 3=Heavy

- ☒ Luster: 1=Dull 2=Shiny

## LEAF VENTRAL SIDE:

- ☒ Leaf Color: 1=Light Green 2=Medium Green 3=Dark Green  
 4=Other (describe) \_\_\_\_\_

Color Chart Name RHS Color Chart Reading 144A

- ☒ Pubescence: 1=Absent 2=Light 3=Heavy

- ☒ Luster: 1=Dull 2=Shiny

## 4. FLOWER:

- ☒ Type: 1=Single 2=Semi-Double 3=Double  
☒ Form: 1=Flat 2=Cupped 3=Other \_\_\_\_\_  
☒ Shape: 1=Round (petals overlap) 2=Intermediate 3=Star (petals gapped)  
☒ Flower Odor: 1=None 2=Mild 3=Strong  
☒ Pedicel Anthocyanin: 1=Absent 2=Faint 3=Strong

25 Number Flowers per Plant

48.5 mm Flower Diameter

3.0 mm Orifice Size (including the opening of the corolla tube)

2.5 mm Ring Width (from outside orifice to edge of color band)

30.0 mm Petal Width (at widest point)

25.0 mm Petal Length (from ring to outer edge)

- ☒ Leaf Type

- ☒ Leaf Margin

- ☒ Leaf Odor

- ☒ Petiole Anthocyanin

- ☒ Leaf Shape

27.5 mm Leaf Width

90.0 mm Leaf Length

## LEAF DORSAL SIDE

- ☒ Leaf Color

Color Chart Reading 137B

- ☒ Pubescence

- ☒ Luster

## LEAF VENTRAL SIDE

- ☒ Leaf Color

Color Chart Reading 144A

- ☒ Pubescence

- ☒ Luster

- ☒ Type

- ☒ Form

- ☒ Shape

- ☒ Flower Odor

- ☒ Pedicel Anthocyanin

25 Number Flowers per Plant

43.0 mm Flower Diameter

2.0 mm Orifice Size

2.1 mm Ring Width

25.0 mm Petal Width

23.0 mm Petal Length

Application Variety Data

Comparison Variety Data

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Victory Red

200100122

Application Variety Data 'Kakegawa EP2' Page 3 Comparison Variety Data 'Pacifica Red'

5. FLOWER COLORS : (Note: Common Color Charts: RHS=Royal Horticultural Society Colour Chart; Munsell=Munsell Book of Color)

	Color Verbal Name	Color Chart Code	Color Chart Name		Color Name	Chart Code	Chart Name
EXAMPLE	Light Blue	106C	RHS				
Petal Color	red/purple	57B	RHS	Petal Color	red purple	58B	RHS
Ring Color	red/purple	57B	RHS	Ring Color	red purple	59B	RHS
Orifice Color	red/purple	46A	RHS	Orifice Color	red	46A	RHS
Other Color (describe location or placement)	Yellow	2B	RHS	Other Eye (inner corolla ring)	red purple	58B	RHS
inner corolla ring							

6. SEEDS (Measure mature (dry) seeds):

5 Seed Set : 1=None 2=Poor 3=Fair 4=Good 5=Excellent

4 Seed Coat Color: 1=White 2=Tan 3=Brown 4=Black 5=Other \_\_\_\_\_

1700.0 mg Weight per 1000 Seeds

5 Seed Set

3 Seed Coat Color

1800.0 mg Seed Weight

7. RESISTANCE: Test as many disease and insect reactions as possible before applying for protection. Tests for disease and insect reactions should include a resistant check and a susceptible check for each disease or insect being tested. When using disease resistance to describe novelty, information on these checks should be included in the novelty statement in support of the novelty claim. Rate the application variety and the comparison variety on a scale of 1 (most susceptible) to 9 (most resistant) for each disease or insect reaction being reported. Give the scientific and common names of each disease/insect for completeness, and the race or strain, if known. (Rate from 1 (most susceptible) to 9 (most resistant)):

Rating Disease/Insect Name (give race or strain, if known)

_____	_____
_____	_____
_____	_____
_____	_____

Rating Disease/Insect Name

_____	_____
_____	_____
_____	_____
_____	_____

Application Variety Data

Comparison Variety Data

8. Attach ONE photographic print of the application variety and the comparison variety described above, indicating the identity of each variety. This photograph should show flower heads of each variety at a magnification sufficient to identify most of the verbal descriptors given above. (Additional photographs in support of this application may be supplied as part of the Exhibits B or D.)



Kakegawa EP2 is labeled  
Victory Red in this photo.

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200100122

## Exhibit D

PVP Appl. No. \_\_\_\_\_

## Vinca Data - First Sowing - Plant Characteristics

Plant. No.	Kakegawa EP2 (cm.)			Pacifica Red (cm.)		
	Plant Height	Flower Diam.	Leaf Width	Plant Height	Flower Diam.	Leaf Width
1	11	3.6	2.5	11	3.8	2.7
2	13	4.7	2.0	11	5.0	2.9
3	12	4.5	2.9	13	4.5	2.1
4	12	3.6	2.0	10	4.5	2.4
5	11	5.1	2.5	13	4.1	2.2
6	10	4.5	2.6	15	4.0	2.2
7	11	3.6	2.6	11	4.3	2.0
8	11	4.3	2.4	11	4.8	2.1
9	13	4.5	2.7	11	4.5	2.8
10	13	5.2	2.7	9	4.3	2.9
11	14	5.1	2.7	11	4.5	2.6
12	15	5.1	2.7	11	4.6	2.6
13	13	5.0	3.0	12	4.1	3.2
14	15	4.8	2.9	13	4.3	2.4
15	13	4.8	3.5	11	5.0	2.3
16	14	5.4	2.7	11	4.3	2.2
17	12	4.3	3.0	11	4.2	2.7
18	12	5.0	2.5	10	4.1	2.2
19	13	5.3	3.0	9	4.3	3.0
20	12	5.2	3.4	10	4.6	2.3
21	7	4.5	3.0	11	4.1	3.0
22	10	4.7	2.6	13	4.3	2.3
23	11	5.2	2.6	12	4.2	3.5
24	10	5.1	3.3	11	4.2	2.4
25	12	5.3	1.6	10	4.3	2.5
26	13	5.0	3.7	11	4.2	2.4
27	13	4.4	2.6	10	4.7	2.8
28	9	4.5	2.4	11	4.8	2.5
29	14	5.0	3.1	12	3.8	2.4
30	12	5.1	3.6	9	3.3	2.5
Count	30	30	30	30	30	30
Average	12	<b>4.7</b>	2.8	11	<b>4.3</b>	2.5
Std. Dev.	1.7515	0.5022	0.4673	1.3322	0.3598	0.3548

*H: mean(EP2) = mean (Pacifica)*

	Plant Height	Flower Diam	Leaf Width
df numerator	0.02605565	0.000161855	0.000131634
df denominator	0.000481268	3.07946E-06	2.43344E-06
degrees of freedom	54.140	52.560	54.094
t stat	2.240	3.753	2.085
Prob( T >t)	0.02922	<b>0.00044</b>	0.04181
Excel's Prob	0.02921	0.00044	0.04180

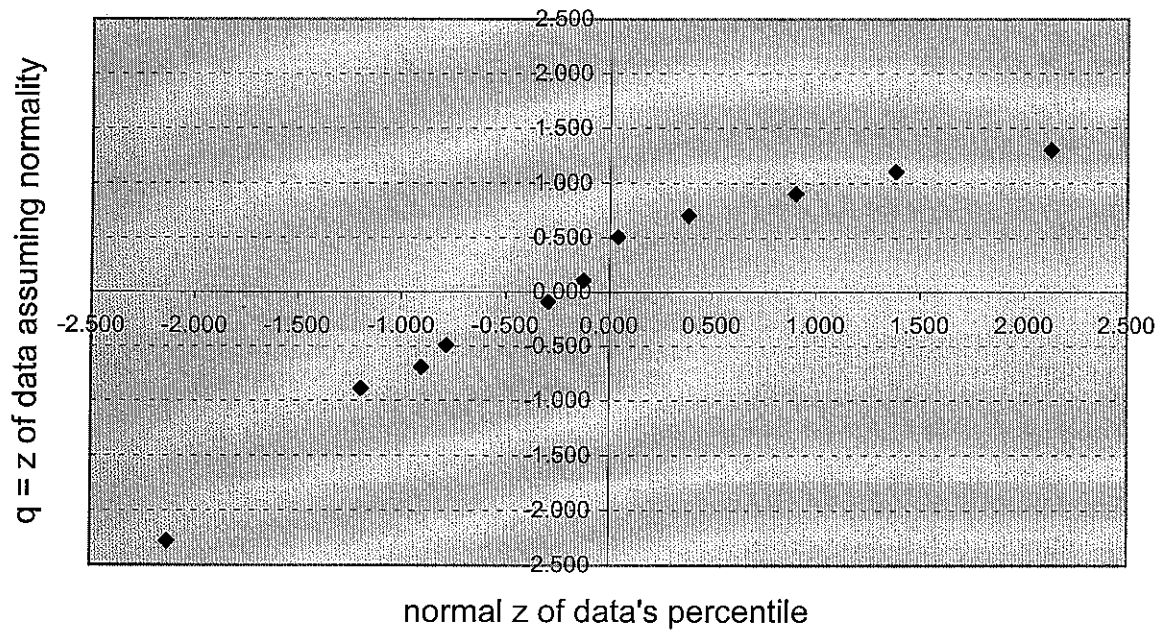
200100122

## Quantile - Quantile Plot Calculations - First Sowing

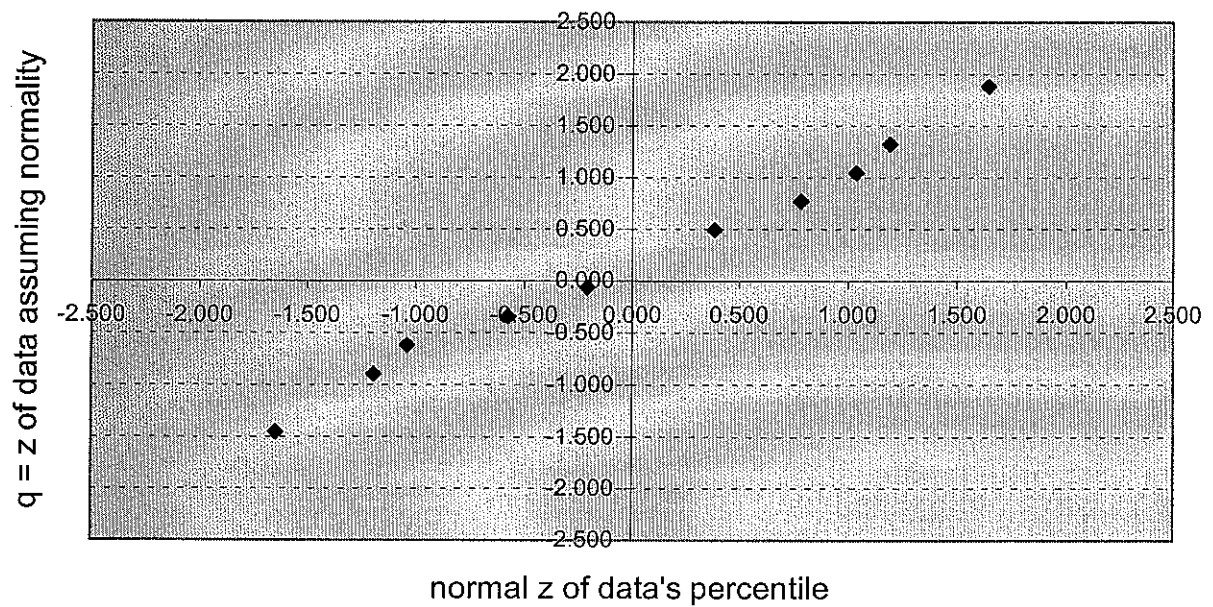
EP2 Flower Diameter					Pacifica Flower Diameter				
Flower Diam.	Rank	percentile	z of p	z of data	Flower Diam.	Rank	percentile	z of p	z of data
3.6	1	0.017	-2.128	-2.283	3.3	1	0.017	-2.128	-2.844
3.6	1	0.017	-2.128	-2.283	3.8	2	0.050	-1.645	-1.455
3.6	1	0.017	-2.128	-2.283	3.8	2	0.050	-1.645	-1.455
4.3	4	0.117	-1.192	-0.889	4.0	4	0.117	-1.192	-0.899
4.3	4	0.117	-1.192	-0.889	4.1	5	0.150	-1.036	-0.621
4.4	6	0.183	-0.903	-0.690	4.1	5	0.150	-1.036	-0.621
4.5	7	0.217	-0.784	-0.491	4.1	5	0.150	-1.036	-0.621
4.5	7	0.217	-0.784	-0.491	4.1	5	0.150	-1.036	-0.621
4.5	7	0.217	-0.784	-0.491	4.2	9	0.283	-0.573	-0.343
4.5	7	0.217	-0.784	-0.491	4.2	9	0.283	-0.573	-0.343
4.5	7	0.217	-0.784	-0.491	4.2	9	0.283	-0.573	-0.343
4.7	12	0.383	-0.297	-0.093	4.2	9	0.283	-0.573	-0.343
4.7	12	0.383	-0.297	-0.093	4.3	13	0.417	-0.210	-0.065
4.8	14	0.450	-0.126	0.106	4.3	13	0.417	-0.210	-0.065
4.8	14	0.450	-0.126	0.106	4.3	13	0.417	-0.210	-0.065
5.0	16	0.517	0.042	0.504	4.3	13	0.417	-0.210	-0.065
5.0	16	0.517	0.042	0.504	4.3	13	0.417	-0.210	-0.065
5.0	16	0.517	0.042	0.504	4.3	13	0.417	-0.210	-0.065
5.0	16	0.517	0.042	0.504	4.3	13	0.417	-0.210	-0.065
5.1	20	0.650	0.385	0.704	4.5	20	0.650	0.385	0.491
5.1	20	0.650	0.385	0.704	4.5	20	0.650	0.385	0.491
5.1	20	0.650	0.385	0.704	4.5	20	0.650	0.385	0.491
5.1	20	0.650	0.385	0.704	4.5	20	0.650	0.385	0.491
5.1	20	0.650	0.385	0.704	4.6	24	0.783	0.784	0.769
5.2	25	0.817	0.903	0.903	4.6	24	0.783	0.784	0.769
5.2	25	0.817	0.903	0.903	4.7	26	0.850	1.036	1.047
5.2	25	0.817	0.903	0.903	4.8	27	0.883	1.192	1.325
5.3	28	0.917	1.383	1.102	4.8	27	0.883	1.192	1.325
5.3	28	0.917	1.383	1.102	5.0	29	0.950	1.645	1.881
5.4	30	0.983	2.128	1.301	5.0	29	0.950	1.645	1.881
4.7					4.3				
0.5022					0.3598				

## First Sowing

Quantile - Quantile Plot of EP2 Flower Diameter



Quantile - Quantile Plot of Pacifica Flower Diameter



200100122

## Vinca Data - Second Sowing - Plant Characteristics

Plant. No.	Kakegawa EP2 (cm.)			Pacifica Red (cm.)		
	Plant Height	Flower Diam.	Leaf Width	Plant Height	Flower Diam.	Leaf Width
1	12	5.0	2.7	14	4.1	2.5
2	13	5.1	3.1	16	4.0	2.9
3	14	5.0	3.0	16	4.7	3.3
4	13	5.2	3.1	18	4.7	3.7
5	13	4.5	3.1	16	4.4	3.1
6	13	5.2	2.5	15	4.2	3.2
7	12	4.5	3.1	15	4.3	2.2
8	13	5.0	2.5	14	4.6	2.8
9	11	5.2	2.6	13	4.4	3.2
10	8	4.7	3.4	12	4.3	2.8
11	12	4.9	2.7	16	4.5	3.1
12	11	4.7	3.2	16	4.1	2.9
13	13	5.1	3.2	16	4.1	2.6
14	14	5.0	3.8	17	4.6	3.4
15	14	4.7	3.3	17	4.6	3.6
16	15	5.2	3.0	12	4.8	2.7
17	13	5.0	3.5	12	4.0	3.2
18	14	5.3	3.0	12	4.2	2.8
19	13	5.0	3.3	16	4.0	2.4
20	13	5.1	2.9	15	4.7	3.1
21	13	5.0	3.4	16	4.5	3.1
22	16	5.1	3.2	13	4.7	2.9
23	16	5.0	3.2	16	3.5	2.6
24	14	5.2	2.9	16	4.3	3.1
25	13	5.4	2.8	15	3.3	3.1
26	13	4.9	2.9	13	4.6	3.0
27	12	5.0	2.8	14	4.5	2.6
28	10	5.2	3.4	14	4.5	2.4
29	12	5.0	2.5	15	4.5	3.0
30	13	4.5	2.8	14	4.5	3.2
Count	30	30	30	30	30	30
Average	13	<b>5.0</b>	3.0	15	<b>4.3</b>	3.0
Std. Dev.	1.5916	0.2325	0.3196	1.6484	0.3480	0.3511

H: mean (EP2) = mean (Pacifica)

	Plant Height	Flower Diam	Leaf Width
df numerator	0.030631705	3.40814E-05	5.64744E-05
df denominator	0.000528781	6.73784E-07	9.82228E-07
degrees of freedom	57.929	50.582	57.496
t stat	-4.621	8.507	0.923
Prob( T >t)	0.00002	<b>0.00000</b>	0.35998
Excel's Prob	0.00002	0.00000	0.35995

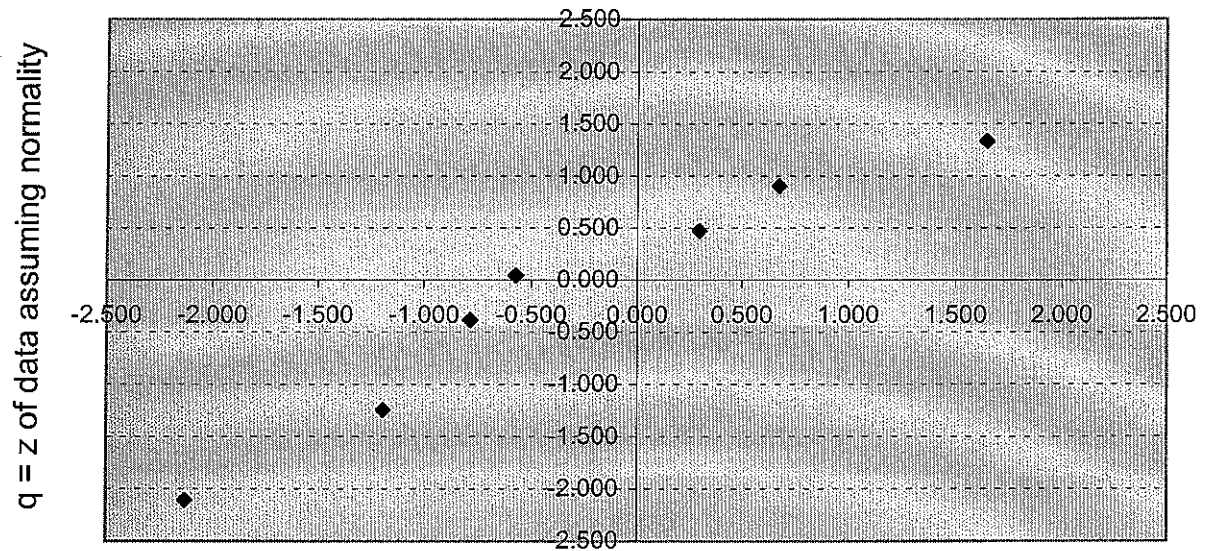
200100122

## Quantile - Quantile Plot Calculations - Second Sowing

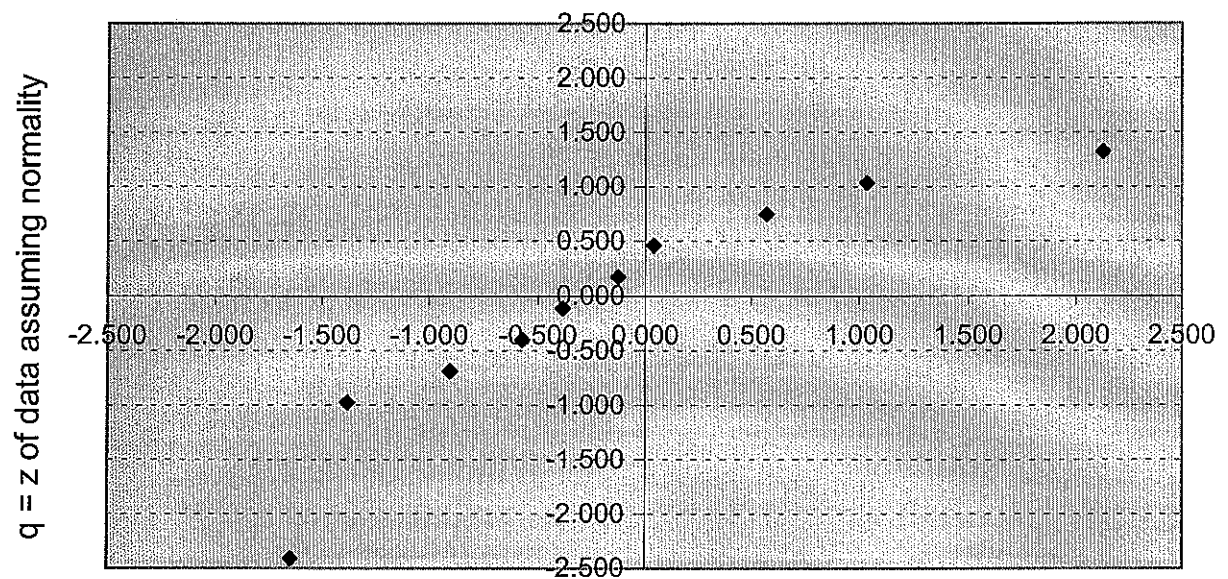
EP2 Flower Diameter					Pacifica Flower Diameter				
Flower Diam.	Rank	percentile	z of p	z of data	Flower Diam.	Rank	percentile	z of p	z of data
4.5	1	0.017	-2.128	-2.108	3.3	1	0.017	-2.128	-2.989
4.5	1	0.017	-2.128	-2.108	3.5	2	0.050	-1.645	-2.414
4.5	1	0.017	-2.128	-2.108	4.0	3	0.083	-1.383	-0.977
4.7	4	0.117	-1.192	-1.248	4.0	3	0.083	-1.383	-0.977
4.7	4	0.117	-1.192	-1.248	4.0	3	0.083	-1.383	-0.977
4.7	4	0.117	-1.192	-1.248	4.1	6	0.183	-0.903	-0.690
4.9	7	0.217	-0.784	-0.387	4.1	6	0.183	-0.903	-0.690
4.9	7	0.217	-0.784	-0.387	4.1	6	0.183	-0.903	-0.690
5.0	9	0.283	-0.573	0.043	4.2	9	0.283	-0.573	-0.402
5.0	9	0.283	-0.573	0.043	4.2	9	0.283	-0.573	-0.402
5.0	9	0.283	-0.573	0.043	4.3	11	0.350	-0.385	-0.115
5.0	9	0.283	-0.573	0.043	4.3	11	0.350	-0.385	-0.115
5.0	9	0.283	-0.573	0.043	4.3	11	0.350	-0.385	-0.115
5.0	9	0.283	-0.573	0.043	4.4	14	0.450	-0.126	0.172
5.0	9	0.283	-0.573	0.043	4.4	14	0.450	-0.126	0.172
5.0	9	0.283	-0.573	0.043	4.5	16	0.517	0.042	0.460
5.0	9	0.283	-0.573	0.043	4.5	16	0.517	0.042	0.460
5.0	9	0.283	-0.573	0.043	4.5	16	0.517	0.042	0.460
5.0	9	0.283	-0.573	0.043	4.5	16	0.517	0.042	0.460
5.1	19	0.617	0.297	0.473	4.5	16	0.517	0.042	0.460
5.1	19	0.617	0.297	0.473	4.5	16	0.517	0.042	0.460
5.1	19	0.617	0.297	0.473	4.5	16	0.517	0.042	0.460
5.1	19	0.617	0.297	0.473	4.6	22	0.717	0.573	0.747
5.2	23	0.750	0.674	0.903	4.6	22	0.717	0.573	0.747
5.2	23	0.750	0.674	0.903	4.6	22	0.717	0.573	0.747
5.2	23	0.750	0.674	0.903	4.6	22	0.717	0.573	0.747
5.2	23	0.750	0.674	0.903	4.7	26	0.850	1.036	1.034
5.2	23	0.750	0.674	0.903	4.7	26	0.850	1.036	1.034
5.2	23	0.750	0.674	0.903	4.7	26	0.850	1.036	1.034
5.3	29	0.950	1.645	1.334	4.7	26	0.850	1.036	1.034
5.4	30	0.983	2.128	1.764	4.8	30	0.983	2.128	1.322
5.0					4.3				
0.2325					0.3480				

## Second Sowing

Quantile - Quantile Plot of EP2 Flower Diameter



Quantile - Quantile Plot of Pacifica Flower Diameter



U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  Sakata Seed Corporation	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME  'Kakegawa EP2'
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 2-7-1 Nakamachidai Tsuzuki-Ku, Yokohama Japan 224	5. TELEPHONE (Include area code)  (408) 778-7758	6. FAX (Include area code)  (408) 779-1978
7. PVPO NUMBER  200100122		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☐ YES ☒ NO Japan10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

The breeder of the new variety is an employee of Sakata Seed Corporation. By agreement between the employee and Sakata, all rights to any invention are assigned to the company; therefore, ownership resides with Sakata Seed Corporation.

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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